



COMMONWEALTH OF MASSACHUSETTS

*Deval L. Patrick, Governor
Richard K. Sullivan, Jr., Secretary
Mark Sylvia, Commissioner*

Energy Management Services

Energy Saving Performance Contracting

Webinar

April 25, 2013

Thank you for joining us.

The webinar will start in a few minutes...



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**Introduction:
Green Communities Division**

Lisa Capone

Deputy Director

Green Communities Division

Green Communities Division

Serves as the hub for all Massachusetts cities and towns on energy matters



Green Communities Division - Programs & Resources for Municipalities

- Green Communities Designation and Grant Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Efficiency Program
- Energy Management Services Technical Assistance
- Clean Energy Results Program (CERP)
- Mass Municipal Energy Group (MMEG)
- Website filled with tools & resources
www.mass.gov/energy/greencommunities
- Email updates via e-blasts – Sign up by sending an email to: join-ene-greencommunities@listserv.state.ma.us



Outreach - Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:



SERO – LAKEVILLE: Seth Pickering
Seth.Pickering@state.ma.us

NERO – WILMINGTON: Joanne Bissetta
Joanne.Bissetta@state.ma.us



CERO – WORCESTER: Kelly Brown
Kelly.Brown@state.ma.us

WERO – SPRINGFIELD: Jim Barry
Jim.Barry@state.ma.us



Helping Massachusetts Municipalities Create A Greener Energy Future



Recording & Presentation

- The webinar is being recorded and will be available on our website in approximately 48 hours at:
www.mass.gov/energy/greencommunities
- The slide presentation will also be posted at:
www.mass.gov/energy/greencommunities
- Website and contact information is listed at end of presentation

Presenters

Eileen McHugh

Program Coordinator, Department of Energy Resources

Richard Harris, AICP

Town Planner, South Hadley

Beth Greenblatt

Managing Director, Beacon Integrated Solutions

Mary C. DeLai

Assistant Superintendent, Finance & Administration, Reading Public Schools



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Massachusetts Department
of Energy Resources

Webinar

April 25, 2013

Implementing an Energy Savings Performance Contract

Eileen McHugh
Program Coordinator

Agenda

Eileen McHugh

Overview

Richard Harris

ESPC project from concept to reality in municipal government

Beth Greenblatt

Optimizing an ESPC project to meet your business needs

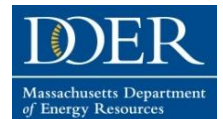
Mary DeLai

Issues to address during project implementation

Wrap-up and questions



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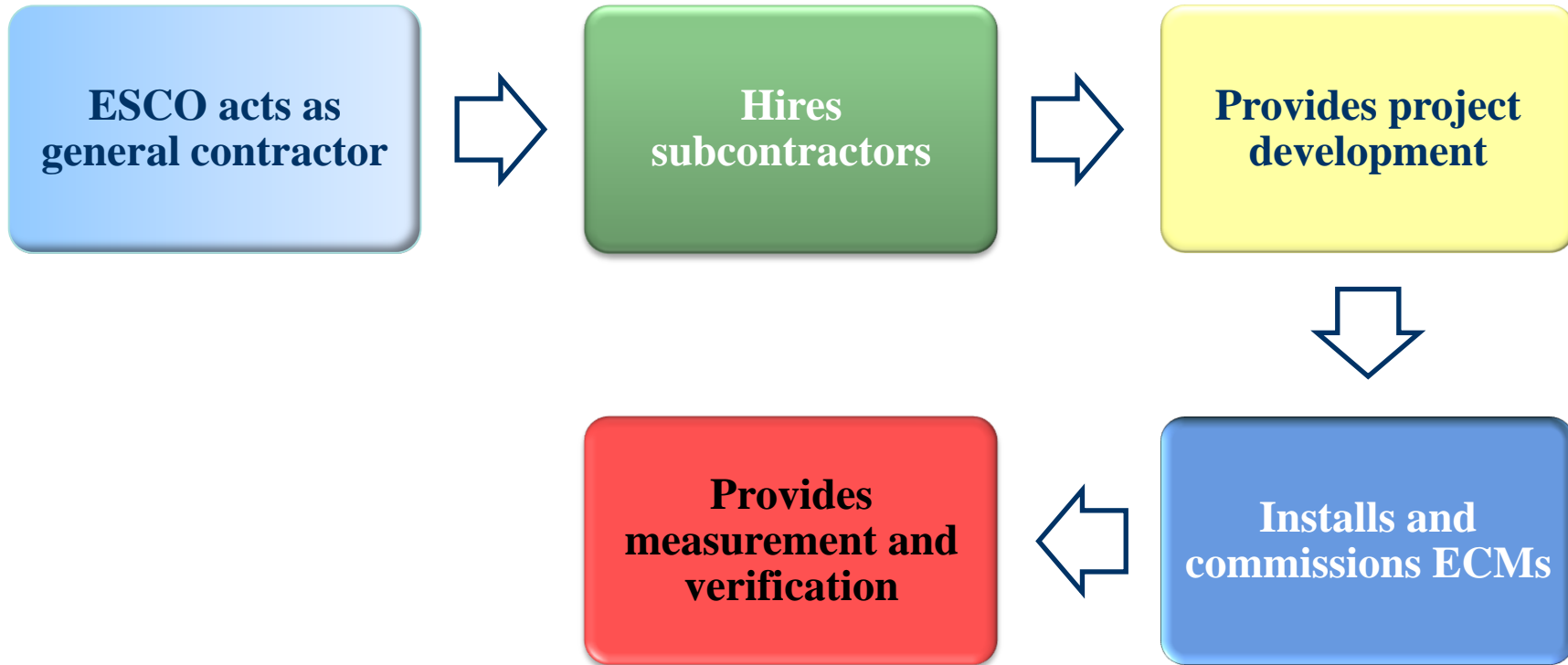
Energy Management Services (EMS)

- ✦ Energy Saving Performance Contracting (ESPC)
- ✦ Install energy efficient and/or renewable facility improvements
- ✦ Provides guaranteed energy cost savings or guaranteed on-site energy generation

Process



ESCO Services



Communication

- ✚ Recognize the need for ongoing communication
- ✚ Hold regular progress meetings and have the ESCO keep minutes
- ✚ Provide outreach to stakeholders

Investment Grade Energy Audit Agreement

- ✚ Cost of energy audit
- ✚ Break up terms
- ✚ Defines what audit services ESCO provides
- ✚ Sets out other terms

Project Costs

- ✚ Transaction Cost vs. Rate of Return
- ✚ Verify Costs – must be competitive
- ✚ Understand Fees
- ✚ Cost for Design & Engineering

Negotiate Contract

- + Construction
- + Commissioning
- + Training
- + Operations and Maintenance
- + Measurement and Verification

Guaranteed Energy Cost Savings

- ✦ Guarantee - ESCO must warrant annual guaranteed energy cost savings for the term of the contract
- ✦ Shortfall – ESCO must reimburse owner
- ✦ Excess savings – Excess savings remain the property of the owner. ESCO prohibited from “banking” to cover future or past shortfalls

Contract Administration

- ✚ Insurance & Bonds
- ✚ Review Design & Installation
- ✚ Coordinate Access
- ✚ Witness Progress
- ✚ Review Annual M&V Reports

Annual Reporting

- ✚ ESCO M&V Activities
- ✚ DOER Reporting Requirements
 - Total project cost
 - 1st year ECM savings per unit (kWh, therms, gallons etc) and dollars
 - Estimated savings baseline for term
 - Verified savings in subsequent years

DOER Resources

- ✚ EMS Web Page
- ✚ Model Documents
- ✚ In-house Expertise
- ✚ Regional Coordinators
- ✚ Education and Presentations

Poll Question # 1

We would like to know our audience; are you a:

- ✚ A municipality considering an energy savings performance contract?
- ✚ A municipality that is either in the midst of or has completed an energy savings performance contract?
- ✚ An energy services company?
- ✚ Other



Richard Harris

ESPC PROJECT FROM
CONCEPT TO REALITY IN
MUNICIPAL GOVERNMENT



Going from No to Yes

Translating . . .



Concept and idea of
energy savings

Into reality and idea

of budget savings





South Hadley's Setting

- ✚ Moderate-sized town
- ✚ Organizational structure –
Professional management and committees
- ✚ Traditional Chapter 149 process
- ✚ Essential Elements: *Professionals providing guidance and Recognized NEED*



Building Mix

- ✚ 13 Buildings totaling over 550,000 square feet with some dating back to the early 1900's
 - ✚ Four schools totaling 372K square feet
 - ✚ Nine nonschool buildings totaling over 150K square feet





Fuel Mix

- ✚ Natural Gas
- ✚ Oil
- ✚ Propane
- ✚ Electricity
- ✚ NOTE: Municipal Light Plant may limit access to rebates, assistance, and project elements



Building Management

- ✚ Five Independent Boards-Committees
- ✚ At least 9 Independent Building Managers – Town Hall?



Approvals Required

- + Building Managers
- + Independent ELECTED Boards/Committees including School Committee and Selectboard
- + Capital Planning Committee
- + Appropriations Committee
- + Town Meeting – 120 Members



Getting Agreement – Always Elusive

- ✚ An educational process
- ✚ Meetings, meetings and more meetings
- ✚ Established criteria (but flexible) for agreement





Process – *How to scope the Project*

- ✚ History of building issues

High School Chiller

Police Station HVAC

- ✚ Review the Capital Plan

- ✚ New building projects?

- ✚ ESCO – unique opportunity





Process – Criteria

- + Payback – varied by building
- + Other benefits – lingering problems
- + Acceleration of Capital Plan projects



Process – Education

Moving from “No” to “Maybe”

- ✚ Chapter 149 versus Chapter 25A
- ✚ Other communities successes
- ✚ Preliminary Energy Audit
- ✚ CAUTIONARY NOTE: Don't try to rush a project – i.e., Town Hall boilers



Preliminary Energy Audit

- ✚ Not required – but was essential
- ✚ Gave high level estimate of opportunities – quantified!
- ✚ South Hadley – provided a refined preliminary scope
- ✚ Led to more buy-in



Preliminary Energy Audit

- ✚ Scoped by Building Managers
- ✚ Identified a project with \$200,000 in potential savings in 10 buildings
- ✚ Some opportunities were dropped due to agreed criteria



Preliminary Energy Audit

- ✚ Provided basis for committees and boards to evaluate taking next step
- ✚ Allowed Town Meeting to make an informed decision before authorizing Investment Grade Audit



Investment Grade Energy Audit

- ✚ Town makes tepid commitment –
Pay a “break up” fee if no project is
approved - \$32,000
- ✚ More detailed analysis using scope
revised based on PEA
- ✚ Some pet projects were dropped



Investment Grade Energy Audit

- ✚ Provided tools and metrics for evaluating alternative combinations of project elements
- ✚ Identified \$180,000 in potential savings in 9 buildings
- ✚ Refined project cost to \$1,949,000





Investment Grade Energy Audit

- ✚ Some building managers proceeded with changes using their own budgets (example, DPW & WWTP) outside of PC – this can be a problem



Final Project Approval

- ✚ School Committee, Selectboard, Capital Planning Committee, and Appropriations Committee
- ✚ Town Treasurer evaluated funding impact
- ✚ Town Meeting authorized Selectboard to execute EMSA and to borrow



Concept to Reality: *The Numbers*

- ✚ Total Town Buildings: 13
- ✚ PEA Projects: 10 buildings
- ✚ IGA Projects: 9 buildings
- ✚ Town Meeting Project: Authorized \$1,930,000 over 9 buildings*



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Concept to Reality: *The Asterisk**

- ✚ Signed EMSA doesn't end planning
- ✚ Events occur – leak in cooling coil at Police Station & status of The Ledges
- ✚ Amendments – not just money, but energy savings too
- ✚ Benefitted by rebates and Town Meeting authorization level





Final Notes

- + Anxious to see Project Completed
- + 3 years to get approval
- + DOER funded consultant was invaluable
- + Preliminary Energy Audit - KEY
- + Many initial opponents are now supporters of the approach



Beth Greenblatt

OPTIMIZING AN ESPC
PROJECT TO MEET YOUR
BUSINESS NEEDS

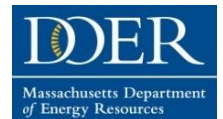


Project Optimization

- ✚ Municipality defines program goals and constraints including investment limit, borrowing term and rate, Green Community savings goals, and project selection prioritization.
- ✚ ESCO pursues a holistic approach to program development and project identification to determine the technical potential for energy efficiency and infrastructure upgrades.



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Project Optimization

- ✚ ESCO and municipal stakeholders collaborate on optimizing the program by applying program constraints and winnowing projects to meet program goals.
- ✚ Iterative process to allow for options analysis.
- ✚ Alternative financing structures and sources are considered.
- ✚ Final program cashflow should include ALL annual program costs and benefits to ensure annual cashflow requirements are understood and goals have been met.



Poll Question # 2

What do you consider the biggest advantage of using an energy savings performance contract?

- ✚ No upfront investment by municipality
- ✚ Projects are managed for the municipality by energy services professionals
- ✚ Guaranteed energy and cost savings
- ✚ Other



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Mary DeLai

ISSUES TO ADDRESS DURING PROJECT IMPLEMENTATION



Strong Project Management

- ✚ One single point of contact
- ✚ Strong presence during construction
- ✚ Outstanding communicator
- ✚ Highly organized
- ✚ Good interpersonal skills
- ✚ Insist on interviewing



Regular Project Meetings

- ✚ Meet at least every other week
- ✚ Agenda tied to project elements
- ✚ Meeting Minutes
- ✚ Transmittal Logs
- ✚ Personnel Logs
- ✚ Compliance checklist(s)



Flawless Communication

- ✚ Be sure all building occupants know what activities will happen when (including parents for school buildings)
- ✚ Project manager should know principals / building managers intimately



Flawless Communication

- ✚ Clear feedback process for building occupants
- ✚ Update elected officials regularly
- ✚ Keep taxpayers informed
- ✚ Students are great messengers!



Communication Strategies

- + Staff Meetings
- + Press releases
- + Website
- + Blogs or wikis (comments allowed)
- + Social media
- + Community meetings



Measurement & Verification

- ✚ Be sure standard operating conditions are acceptable and represent actual conditions
- ✚ Select protocols that are reasonable, rational, and practical
 - ✚ *How much gets stipulated*
 - ✚ *How much gets measured*
- ✚ Share results with community





Other Considerations

- ✚ Technical assistance is very helpful
 - ✚ *ECM selection*
 - ✚ *ESA negotiations*
 - ✚ *M & V Protocols*
- ✚ Collaborate with local environmental groups
- ✚ Occupied renovation requires strong oversight and monitoring

Questions



THANK YOU!

Eileen McHugh

Municipal Energy Programs Coordinator

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www.mass.gov/green/energy-management-services_public-procurement



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